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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/798,929	03/11/2004	Benjamin Alan Askren	2003-0888.01/4670-276	6923

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LEXMARK INTERNATIONAL, INC.  
ATT: JOHN J. McARDLE, JR.  
740 WEST NEW CIRCLE ROAD  
LEXINGTON, KY 40550

EXAMINER
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ROTH, LAURA K

ART UNIT	PAPER NUMBER
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2852

DATE MAILED: 08/01/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

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<b>Office Action Summary</b>	<b>Application No.</b> 10/798,929	<b>Applicant(s)</b> ASKREN ET AL.	
	<b>Examiner</b> Laura K. Roth	<b>Art Unit</b> 2852	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-20 is/are pending in the application.  
     4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 20 is/are allowed.
- 6) ☒ Claim(s) 1-3, 6, 7, 11-13, 15-17 and 19 is/are rejected.
- 7) ☒ Claim(s) 4, 5, 8-10, 14 and 18 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
     a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |  |
|--|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)            |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>3/11/04 &amp; 5/20/04</u> . | 6) <input type="checkbox"/> Other: ____  |

### ***Claim Objections***

Claim 20 is objected to because of the following informalities: "an wall within a toner reservoir" should be rewritten "a wall within a toner reservoir" (cl.20, ln.5).

Appropriate correction is required.

Claims 8-12 are objected to because of the following informalities: the preamble repeatedly states "the device of claim 7" which should read "the **cartridge** of claim 7".

Appropriate correction is required.

Claim 12 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Claim 7, lines 8-11, states that the optically transmissive member and the reflective surface are both contacted by the second edge and the first edge respectively, therefore the distance between the two members is defined by the distance between the two edges and it would then make the two distances equal. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-3 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Buchanan et al. (US Pat. 6,496,662) in view of Morinaga et al. (US Pat. 6,219,506). Buchanan et al. (US Pat. 6,496,662) teach a device to prevent toner from leaking from a cartridge (col.2, ln.42+) of an image forming apparatus comprising: a seal (fig.3, #21) sized to fit within a port in the cartridge (col.1, 51+; col.2, ln.42+), the seal having an aperture (see fig.3, #21), an optically transmissive member positioned across the aperture (col.2, ln.40+), a reflector having a reflective surface positioned a distance from the optically transmissive member (col.2, ln.46-48), an aperture centered within the seal (fig.3, #21), and an orientation wherein the optically transmissive member and the reflector form surfaces that are substantially parallel (col.1, ln.53-55). Buchanan et al. (US Pat. 6,496,662) also teach the reflective mirror supported by an extension from the back of the cartridge chamber, but also state that other supports are viable alternatives (col.2, ln.56+). However, Buchanan et al. (US Pat. 6,496,662) fail to teach a base extending outward from the seal and having a connection member and also fail to teach a seal with an elliptical shape.

Morinaga et al. (US Pat. 6,219,506) teach a base extending outward from the seal (fig.8B, #C15) having a connection member (fig.8B, #A12; fig.16, #A12) and also teach a seal with a circular, triangular, polygonal and other non-circular shapes (col.23, ln.15-19). It would have been obvious to one of ordinary skill in the art at the time of invention to modify the seal of Buchanan et al. (US Pat. 6,496,662) with the extended base and connection member of Morinaga et al. (US Pat. 6,219,506) to provide a support for the reflector that ensures that the positioning of the reflector with respect to

the optically transmissive member remains constant and to provide an integrally formed unit which would have the benefit of easy removal or replacement of the parts. It would have been obvious to one of ordinary skill in the art at the time of invention to modify the circular seal of Buchanan et al. (US Pat. 6,496,662) with one of the number of shapes, perhaps an ellipse, of Morinaga et al. (US Pat. 6,219,506) to provide a seal that would most properly prevent toner leaking in a non-circular port.

Claims 7, 11, and 12 rejected under 35 U.S.C. 103(a) as being unpatentable over Buchanan et al. (US Pat. 6,496,662) in view of Morinaga et al. (US Pat. 6,219,506). Buchanan et al. (US Pat. 6,496,662) disclose a toner cartridge (col.2, ln.14) for use in an image forming device (col.3, ln.12-13) with a port through an exterior wall (col.1, ln.52-53) positioned adjacent to a lower wall (col.2, ln.48+), an agitating member (col.2, ln.30-33) having a wiper blade with a first edge and a second edge that are spaced apart (col.2, ln.51-53; fig.1, #17), a seal sized to mount within the port (fig.3, #21) and prevent toner from leaking (col.2, ln.42-43), an optically transmissive member positioned within an opening in the seal (col.2, ln. 40+; fig.3, #21), and a reflector spaced from the optically transmissive member (col.2, ln.47-49) in such a way that the first edge contacts the reflective surface and the second edge contacts the optically transmissive member (col.2, ln.51-53). Buchanan et al. (US Pat. 6,496,662) disclose the reflector supported by an extension from the back of the cartridge chamber and also state that other supports are viable alternatives (col.2, ln.56+). Regarding claim 12, Buchanan et al. (US Pat. 6,496,662) also disclose a cartridge wherein a first distance between the first edge and the second edge is equal to a second distance between the

optically transmissive member and the reflective surface (col.2, ln.51-53). However, Buchanan et al. (US Pat. 6,496,662) fail to disclose a base extending outward from the seal by which the reflector can be supported.

Morinaga et al. (US Pat. 6,219,506) teach a base extending outward from the seal (fig.8B, #C15). It would have been obvious to one of ordinary skill in the art at the time of invention to modify the seal of Buchanan et al. (US Pat. 6,496,662) with the extended base of Morinaga et al. (US Pat. 6,219,506) to provide a support for the reflector that ensures that the positioning of the reflector with respect to the optically transmissive member remains constant and to provide an integrally formed unit which would have the benefit of easy removal or replacement of the parts.

Regarding claim 11, if the port is positioned adjacent to a lower wall of the cartridge and a base extends from a seal into the reservoir, then by default, the base will contact and rest on the lower wall when the seal is mounted within the port.

Claims 13, 15, and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Buchanan et al. (US Pat. 6,496,662) in view of Morinaga et al. (US Pat. 6,219,506). Buchanan et al. (US Pat. 6,496,662) disclose an image forming device (col.3, ln.12+) comprising: a cartridge having a toner reservoir (fig.1, #1,3) and a port (col.1, ln.52-53), a toner level sensor positioned adjacent to the port to send signals through the port (col.3, ln.12+), a plug mounted to block the port (fig.3, #21) and having an optically transmissive section (fig.3, #21) that aligns with the toner level sensor (col.3, ln.14+), and a reflector that has a reflective surface positioned a distance from the optically transmissive section. Buchanan et al. (US Pat. 6,496,662) also disclose

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the reflector supported by an extension from the back of the cartridge chamber and state that other supports are viable alternatives (col.2, ln.56+). Regarding claim 15, Buchanan et al. (US Pat. 6,496,662) further disclose an agitating member rotatably mounted within the toner reservoir which has a first edge and a second edge wherein the first edge contacts the reflective surface and the second edge contacts the optically transmissive section. However, Buchanan et al. (US Pat. 6,496,662) fail to disclose a base that extends into the toner reservoir when the plug is mounted to the port and a port to access the toner reservoir.

Morinaga et al. (US Pat. 6,219,506) teach a base extending outward from the seal (fig.8B, #C15). It would have been obvious to one of ordinary skill in the art at the time of invention to modify the seal of Buchanan et al. (US Pat. 6,496,662) with the extended base of Morinaga et al. (US Pat. 6,219,506) to provide a support for the reflector that ensures that the positioning of the reflector with respect to the optically transmissive member remains constant and to provide an integrally formed unit which would have the benefit of easy removal or replacement of the parts.

Morinaga et al. (US Pat. 6,219,506) additionally teach a port to access the toner reservoir (col.9, ln.15-18; fig.6, #11da). It would have been obvious to one of ordinary skill in the art at the time of invention to modify port of Buchanan et al. (US Pat. 6,496,662) with reservoir access purpose of Morinaga et al. (US Pat. 6,219,506) to provide a convenient way to access the toner reservoir which would provide the benefit of being able to refill and reuse toner cartridges. Refilling and reusing toner cartridges would provide the environmental benefits of recycling and a cost-savings benefit to the

user since the cost of refilling a cartridge is lower than the cost to purchase a whole new unit.

Regarding claim 16 and the rejection of claims 13 and 15, the toner level sensor is fixed to the image forming device (col.3, ln.12-13) and positioned adjacent to the port that contains the plug with optically transmissive material. The optically transmissive material is placed a distance from the reflector, which is determined by the distance between the edges of the wipe blades. Thus, by default, the reflector has to be set a predetermined distance from the reflective surface when the plug is mounted to the port.

Claims 17 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Morinaga et al. (US Pat. 6,219,506) in view of Buchanan et al. (US Pat. 6,496,662). Morinaga et al. (US Pat. 6,219,506) disclose a method of removing a plug from a cartridge of an image forming device (col.1, ln.7-12; col.2, ln.34-38) comprising the steps of: forming a hole in a plug that is mounted within a port in the cartridge (claim1, step 1; claim4), extending a tool through the hole into an interior section of the cartridge (fig.24A; to grip O' initially, tool J2 must enter the interior section through the hole), applying a force substantially parallel to a face of the plug (fig.24A, C; as C is not distinctly defined, the x-component of the force C could be significantly greater than the y-component, rendering the force substantially parallel to the face and still effecting the disconnection means set forth in fig.24A), disconnecting a connection member (fig.24A, #A12) on a base that extends outward from the plug (fig.8B, #C15) from a retention feature mounted within the interior section of the cartridge (fig.24A, corner formed from 11A to 11da), and removing the plug from the port (claim 1, step 2). Morinaga et al. (US



Pat. 6,219,506) further disclose a step of inputting new toner into the cartridge after removing the plug from the port (col.1, ln.27-29). However, Morinaga et al. (US Pat. 6,219,506) fail to disclose an optically transmissive section of a plug and the forming of a hole in said optically transmissive section.

Buchanan et al. (US Pat. 6,496,662) disclose an optically transmissive section in a plug. It would have been obvious to one of ordinary skill in the art at the time of invention to modify the plug proposed in the method of Morinaga et al. (US Pat. 6,219,506) with the optically transmissive section of Buchanan et al. (US Pat. 6,496,662) to eradicate the need to two holes in the cartridge walls and two seals for said holes, thus potentially decreasing cost of manufacture and reducing the possibility of toner leakage. It also would have been obvious to one of ordinary skill in the art at the time of invention to modify the method of Morinaga et al. (US Pat. 6,219,506) with the possibility of forming a hole in the optically transmissive section of Buchanan et al. (US Pat. 6,496,662) to facilitate an effective removal of the plug when an optically transmissive member is present.

#### ***Allowable Subject Matter***

Claims 4, 5, 8-10, 14 and 18 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Prior art does not disclose or suggest the claimed "connection member is an aperture formed in the base" (claim 4), "the reflector extends outward from the base between the seal and the connection

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member" (claim 5), "a retention feature mounted on an inner wall of the cartridge to receive a connection member on the base" (claim 8), "the retention feature comprises an angled member extending from an inner wall of the cartridge and the connection member comprises an aperture within the base" (claim 9), "the aperture is positioned on a distal end of the base opposite the seal" (claim 10), "retention feature mounted within the toner reservoir a predetermined distance from the port and a connection member on the base that mate with the retention feature when the plug is mounted to the port" (claim 14), or the step of "forming a second hole in a reflective member that extends from the base a distance from the plug and extending the tool through the hole and through the second hole prior to applying the force" (claim 18) in combination with the remaining claim elements as set forth in claims 1, 7, 13, and 17, respectively.

Claim 20 is allowed.

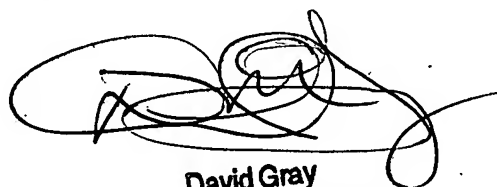
The following is a statement of reasons for the indication of allowable subject matter: Prior art does not disclose or suggest the claimed step of "attaching an aperture on the plug to a ramped member that extends outward from a(n) wall within a toner reservoir" in combination with the remaining claim elements as set forth in claim 20.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Laura K. Roth whose telephone number is (571)272-2154. The examiner can normally be reached on Monday-Friday, 7:30 am to 4:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David M. Gray can be reached on (571)272-2119. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

7/29/2005  
LKR



David Gray  
Primary Examiner